



DEPARTMENT OF THE ARMY
OFFICE OF THE CHIEF OF ENGINEERS
WASHINGTON, D.C. 20310-2600

**REPLY TO
ATTENTION OF**

CEMP-SWD (1105-2-10a)

16 April 2004

SUBJECT: Gulf Intracoastal Waterway, High Island to Brazos River, Texas

THE SECRETARY OF THE ARMY

1. I submit for transmission to Congress my report on navigation improvements for the Gulf Intracoastal Waterway (GIWW) from High Island to Brazos River, Texas. It is accompanied by the report of the district and division engineers. These reports were prepared in partial response to Section 216 of the 1970 Flood Control Act. This authority provides for a review of completed U. S. Army Corps of Engineers projects that may have changed because of physical or economic reasons. This study was the second phase of a two-phase planning investigation that addressed the existing, federally maintained, 423-mile Texas section of the GIWW, and was conducted in cooperation with the non-Federal sponsor, Texas Department of Transportation. Pre-construction engineering and design activities for this proposed project will be continued under the authority provided by the section cited above.
2. The GIWW channel from High Island to Brazos River, Texas, was completed in the 1940's. The main channel of the GIWW was designated as part of the Inland Waterways System by Section 206 of the 1978 Inland Waterways Revenue Act (Public Law 95-502). Since the completion of the channel, problems have been identified which affect the safety and economic efficiency of the waterway as well as the environment. Sharp bends and curves create steerage problems invariably resulting in barge tows leaving the bounds of the channel which, in turn, cause occasional groundings. In addition, shoaling at certain areas causes sand bars to build in the bends which contribute to the grounding problem.
3. The reporting officers recommend a plan to improve the existing GIWW inland navigation project between High Island and Brazos River. The recommended plan consists of the following components:

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a. Construct a 24-acre sediment trap at Rollover Pass to intercept sediment that is transported between East Bay, the GIWW, and the Gulf of Mexico, reducing the sediment that is deposited in the GIWW.

b. Widen the west approach opening at Sievers Cove from 125 feet to 200 feet.

c. Abandon the existing turning channel of the Texas City Wye, widen the Texas City Channel at the intersection with the GIWW, and remove the navigational aids.

d. Widen the Pelican Island Mooring Basin on the north side from 75 feet to 155 feet, and combine this feature with the Texas City Wye.

e. Construct a 1,600-foot-long mooring facility at the mouth of Greens Lake.

f. Construct a single 24-foot-circumference, 10,000-foot-long geotube barrier between the GIWW and the West Bay.

4. The first cost of the recommended plan, based on October 2003 price levels, is estimated at \$12,326,000. Interest during construction is estimated at \$128,000. Average annual economic costs, based on a discount rate of 5 5/8 percent and a 50-year period of economic analysis, are estimated at \$1,350,000, including \$601,000 for all necessary operation and maintenance activities. It is estimated that the recommended plan would provide \$2,973,000 annual benefits by reducing vessel delays and would also provide an annual reduction in vessel damages of \$299,000, for total average annual benefits of \$3,272,000. The resulting incremental average annual economic benefits and costs of the recommended plan are estimated at \$3,272,000 and \$1,350,000 respectively, with net benefits of \$1,922,000, and a benefit-to-cost ratio of 2.4 to 1.

a. For the Rollover Pass component, the first cost is estimated at \$2,197,000. The average annual benefits and costs are estimated at \$553,000 and \$263,000, respectively, with annual net benefits of \$290,000, and a benefit-to-cost ratio of 2.1 to 1.

b. For the Sievers Cove component, the first cost is estimated at \$627,000. The average annual benefits and costs are estimated at \$568,000 and \$71,000, respectively, with annual net benefits of \$497,000, and a benefit-to-cost ratio of 8.0 to 1.

c. For the Texas City Wye and Pelican Cut component, the first cost is estimated at \$3,840,000. The average annual benefits and costs are estimated at \$648,000 and \$497,000, respectively, with annual net benefits of \$151,000, and a benefit-to-cost ratio of 1.3 to 1.

d. For the Greens Lake Moorings component, the first cost is estimated at \$2,402,000. The average annual benefits and costs are estimated at \$977,000 and \$261,000, respectively, with annual net benefits of \$716,000, and a benefit-to-cost ratio of 3.7 to 1.

e. For the West Bay Washout component, the first cost is estimated at \$3,260,000. The average annual benefits and costs are estimated at \$526,000 and \$258,000, respectively, with annual net benefits of \$268,000, and a benefit-to-cost ratio of 2.0 to 1.

5. The overall recommended plan, including all of the above components, is the national economic development (NED) plan. The recommended plan will reduce transportation costs to the Nation, provide safe and dependable navigation, and preserve the environmental resources of the area.

6. The Gulf Intracoastal Waterway, High Island to Brazos River, Texas, is a segment of the inland waterway identified in Section 206 of the Inland Waterways Revenue Act of 1978, as amended. In accordance with the cost described in Section 102 of the Water Resources Development Act of 1986 (WRDA 1986), one-half of all future design and construction costs shall be paid from amounts appropriated from the general fund of the Treasury and the other one-half of the future design and construction costs shall be paid from amounts appropriated from the Inland Waterways Trust Fund.

7. Washington level review indicates that the recommended plan is technically sound, economically justified, and environmentally and socially acceptable. The plan conforms with essential elements of the U.S. Water Resources Council's Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies and complies with other administration and legislative policies and guidelines. Also, the views of interested parties, including Federal, State and local agencies have been considered.

8. I concur with the findings, conclusions, and recommendation of the reporting officers. Accordingly, I recommend that implementation of the proposed project be authorized subject to cost sharing, financing, and other applicable requirements of Section 102 of WRDA 1986. The cost of construction, including planning, design, engineering, and surveying; the acquisition of all lands, easement, rights-of-way; and relocations necessary for the project shall be paid one-half from amounts appropriated from the general fund of the Treasury and one-half from amounts appropriated from the Inland Waterways Trust Fund.

9. The recommendation contained herein reflects the information available at this time and current departmental policies governing formulation of individual projects. It does not reflect program and budgeting priorities inherent in the formulation of a national civil works construction program or the perspective of higher review levels within the executive branch. Consequently, the recommendation may be modified before it is transmitted to the Congress as a

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proposal for authorization and implementation funding. However, prior to transmittal to the Congress, the sponsor, the State of Texas; the Inland Waterways Users Board, interested Federal agencies; and other parties will be advised of any significant modifications and will be afforded an opportunity to comment further.

A handwritten signature in black ink, appearing to read "Robert B. Flowers", with a long horizontal flourish extending to the right.

ROBERT B. FLOWERS

Lieutenant General, U.S. Army
Chief of Engineers